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ABSTRACT

This instructor's resource guide is designed to accompany the student modules in the occupational subject area of business and office education. The guide defines safety and health training needs in the various occupations; describes the modules and their use; and encourages instructors to consider the safety and health needs of all students. In Section I some safety and health problems in the occupational area of business and office education are cited. Section II provides the instructor with a short narrative of the content of each related student module. The third section identifies the basic components (introduction, objectives, subject matter, activities, references) of the 50 student modules in this program and describes the function of each of the various parts. Followup activities and module format are also described, and presentation approaches are suggested. In Section IV, a brief summary of some of the considerations of special-needs students is given. The final section concerns student certification procedures. Appended is a list of the 50 module titles. (CT)

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**SAFETY AND HEALTH FOR
BUSINESS AND OFFICE EDUCATION**

AN INSTRUCTOR RESOURCE GUIDE

Developed for
**THE U. S. DEPARTMENT OF EDUCATION
OFFICE OF VOCATIONAL AND ADULT EDUCATION**

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Developed by
**THE CENTER FOR OCCUPATIONAL RESEARCH AND DEVELOPMENT
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PREFACE

In the 40 minutes required to read and study this Instructor Resource Guide, one worker somewhere in the United States will be fatally injured in an on-the-job accident. More than 160 workers will have suffered disabling injuries, and several million dollars will have been spent or lost as a result of these deaths and injuries. In addition, at least 344,000 cases of occupational disease are reported annually among the 75 million employees in the labor force.

Because a majority of job-related accidents involve workers within their first six months of employment, safety and health information should be provided during preemployment training. Unnecessary exposure to potential health hazards can be minimized if proper training is provided. Health and safety information, the development of a positive safety attitude, and safe working procedures should be part of the curriculum for every vocational or occupational student. This can be accomplished by providing a separate health and safety course or, more easily, by infusing the information into appropriate, existing classes.

A series of separate instructional modules have been developed to facilitate the process of including safety and health instruction in existing curricula. Modules in the series that are appropriate for occupations in Business and Office Education have been identified in this Resource Guide, which is one of seven related to different occupational clusters. The modules are adaptable to secondary, postsecondary, and adult education programs, including industry-based training and retraining programs.

The purpose of this Instructor Resource Guide is to familiarize you, the instructor, with the instructional materials developed and to suggest a systematic method for their use. Health and safety needs for the Business and Office Education cluster will be described in Section I, including a definition of the cluster. The modules recommended for inclusion will be described in Section II. Various ways to use the modules are found in Section III. The fourth section describes mechanisms helpful in identification of special safety and health considerations for handicapped students/workers. The final section provides information concerning certification of students who successfully complete a training program that includes these modules.

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INTRODUCTION

When someone is asked to perform a new job, some form of training or instruction normally is provided. The training may be as brief as a few seconds of verbal directions or as extensive as months of intensive academic and apprenticeship preparation. The number of workers who annually sustain job-related disabling injuries and illnesses indicates that safety and health information may not be adequately presented in many training programs.

Safety and health information often is acquired only as a by-product of job-related responsibilities. In many cases, observation of experienced co-workers may be the only mechanism provided for training. This uncontrolled type of learning frequently leads to development of improper or unsafe work practices by the new worker. If the new employee does not possess a basic understanding of safety and health aspects of the job and a positive safety attitude, the potential for an on-the-job accident is greatly increased.

Business and Office Education, as the title implies, includes a variety of occupations that act as the connecting link between the production and distribution activities of an organization. Activities performed include such things as recording and retrieval of data, supervision and coordination of office activities, internal and external communication, and the reporting of information. Most activities performed by these workers takes place in a prescribed area of a building designated as an office. A variety of problems - including noise, illumination, fire, ventilation, chemicals, electrical, and radiation hazards - are experienced by these workers. A significant source of injury is improper lifting technique. Back strains resulting from these improper techniques can affect a worker for the remainder of his or her life. Safety and health instructional materials are needed for the Business and Office Education cluster that address these and other specific problems.

In response to the need for safety and health instruction, the U.S. Department of Education sponsored a project to develop 50 safety and health instructional modules. Each module addresses a separate topic and is self-

contained. The first ten modules in the series (SH-01 through SH-10) are referred to as "core" modules and contain basic safety and health information useful to almost every occupation in the Business and Office Education cluster.

From the remaining 40 specific modules, 13 have been recognized as having content that may be appropriate for Business and Office Education students, depending on their vocational and occupational goals. A complete list of all 50 module titles is included in Appendix A. This "shopping list" of modules permits you to select the exact safety and health information your students need. The modular form of presentation allows you to infuse modules when and as they are appropriate in your instructional plan.

SECTION I

HEALTH AND SAFETY IN BUSINESS AND OFFICE EDUCATION

The top drawer of the filing cabinet was completely full, the bottom three were partially full. During a search for a letter, the bottom drawer was left open and the top drawer fully extended at the same time. Overbalanced, the filing cabinet tipped forward. In an attempt to keep it from falling the accountant tried to catch the cabinet. The other drawers came open, adding an uncontrollable amount of weight to the falling cabinet. A broken arm and files in total disarray resulted.

A clerk was asked to secure a ream of typing paper from the storeroom. The paper was on the top shelf and out of reach. Normally, a stepstool was kept in the room for occasions that required added height; however, someone had borrowed the stool and it was not available for the clerk to use. The clerk stood on an empty cardboard box. The box was not constructed to hold her weight, and she fell, hitting her head on the floor and suffering a concussion.

While typing, a secretary dropped a piece of paper behind the typewriter between the wall and her machine. She stood up, leaned forward, and attempted to lift the machine to retrieve the paper. As a result of this improper lift, the secretary felt a burning pain in her lower back that was later determined to be a ruptured vertebra.

Thousands of workers each year suffer similar accidents, some even fatal, many of which could have been avoided if fundamental safety rules had been applied. Carelessness is certainly the cause of many accidents; others, however, are due to the worker not being aware of proper safety procedures. The result is almost always the same - lost work time, reduced productivity, and unneeded pain suffered. You have the opportunity to reduce these statistics by providing your students with needed safety and health instruction.

A significant majority of these accidents will occur to workers within the first six months of their time on the job. While you are providing these entering workers with job skills, why not provide them with the safety

and health instruction they need to survive their initial term of employment?

BUSINESS AND OFFICE EDUCATION PROGRAM AREAS

The Business and Office Education cluster includes a diversified group of occupations. A majority of these workers spend their entire working day engaged in activities within the confines of an office building.

For the purpose of this Instructor Resource Guide, Business and Office Education has been separated into nine instructional program areas. Each area will be described briefly, specific health and safety hazards listed, and some of the common employment groups and recommended modules identified. The modules are numerically sequenced, but numbers do not represent order of presentation.

The first ten modules of the JSHIM series (SH-01 through SH-10) are core modules and contain some information useful to workers in all occupations of the Business and Office Education cluster. Of the remaining 40 specific modules, those of which all or parts might apply are listed with each area.

Accounting and Computing Operations - Workers in this area systematize information concerning transactions and activities into accounts and quantitative records. Other tasks include such things as making payments and receiving money. Five categories are defined in this area, including:

- Accountant.
- Bookkeeper.
- Cashier.
- Machine operator.
- Teller.

Some health and safety problems experienced by these workers include lighting, ventilation, fire hazards, mechanized hazards, and house-keeping.

Consider the following specific modules for this area:

- SH-11 Business and Office Safety
- SH-25 Safety Features of Material and Personnel Movement Devices

SH-31 Overcurrent and Electrical Shock Protection
SH-44 Exhaust, Dust Collection, and Ventilation Systems

Data Processing Systems Occupations - Employees working in jobs related to this program area perform a variety of data manipulations. Four job categories have been identified in this area, including:

- Computer and console operator.
- Keypunch and coding equipment operator.
- Programmer.
- Systems analyst.

These workers often are found in rooms dedicated to data manipulating devices such as computers. Several potential hazards in this environment include:

- Electrical hazards.
- Ventilation hazards.
- Mechanical hazards.
- Illumination hazards.
- Lifting hazards.
- Fire hazards.
- Noise hazards.

Consider the following specific modules for this area:

SH-11 Business and Office Safety
SH-12 Personal Protective Equipment
SH-25 Safety Features of Material and Personnel Movement Devices
SH-31 Overcurrent and Electrical Shock Protection
SH-44 Exhaust, Dust Collection, and Ventilation Systems

Filing, Office Machines, and General Office Clerical Occupations - Workers in this program area are responsible for generating (by typing or some other technique), duplicating, and filing information produced in an office environment. At least three general work areas can be defined, including:

- Duplicating machine operator.
- File clerk.
- General office clerk.

Because these workers operate mechanical devices as part of their daily job requirement, they are exposed to mechanical and electrical hazards constantly. Other hazards include:

- Radiation.
- Chemical exposure.
- Airborne contaminants.
- Lifting hazards.

Consider the following specific modules for this area:

SH-11 Business and Office Safety
SH-12 Personal Protective Equipment
SH-25 Safety Features of Material and Personnel Movement Devices
SH-31 Overcurrent and Electrical Shock Protection
SH-33 Vibration and Noise Control
SH-35 Ionizing and Nonionizing Radiation
SH-44 Exhaust, Dust Collection, and Ventilation Systems

Information Communication Occupations - These workers are concerned with the distribution of information by mail, telephone, telegraph, and in person. At least five general work categories can be defined, including:

- Communication systems clerk or operator.
- Correspondence clerk.
- Mail handler or postal clerk.
- Messenger.
- Receptionist and information clerk.

The movement of information by manual or mechanical mechanisms presents some unique hazards including such things as:

- Electrical shock.
- Chemical exposure.
- Radiation exposure.
- Working surface hazards.
- Lifting hazards.

Consider the following specific modules for this area:

SH-11 Business and Office Safety
SH-12 Personal Protective Equipment
SH-25 Safety Features of Material and Personnel Movement Devices

- SH-31 Overcurrent and Electrical Shock Protection
- SH-33 Vibration and Noise Control
- SH-35 Ionizing and Nonionizing Radiation
- SH-44 Exhaust, Dust Collection, and Ventilation Systems

Materials Support Occupations - Workers engaged in these occupations are concerned with transporting, storing, and recording of materials in use. Most of these workers are classified as clerks concerned with such things as:

- Planning and production.
- Quality control.
- Shipping and receiving.
- Stock and inventory.
- Traffic, rate, and transportation.

Being involved in materials handling, movement, and storage, these workers are exposed to many hazards, including:

- Chemicals.
- Electrical shock.
- Faulty mechanical devices.
- Lifting improperly.
- Unsafe working surfaces.

Consider the following specific modules for this area:

- SH-11 Business and Office Safety
- SH-12 Personal Protective Equipment
- SH-14 Using Ropes, Chains and Slings Safely
- SH-16 Material Hoist Safety
- SH-23 Warehousing, Storage and Retrieval Safety
- SH-25 Safety Features of Material and Personnel Movement Devices
- SH-29 Safe Handling and Use of Flammable and Combustible Materials
- SH-33 Vibration and Noise Control
- SH-36 Safety Features for Floor and Wall Openings and Stairways
- SH-44 Exhaust, Dust Collection, and Ventilation Systems

Personnel, Training, and Related Occupations - Persons employed in these occupations are concerned with the administration of an organization and the activities of the clerical staff. At least three general work categories can be defined, as follows:

- Education assistant and training specialist.
- Interviewer and test technician.
- Personnel assistant.

The activities of most workers in this area are confined to office environments. Hazards experienced are typical of those working in restricted structural environments, including:

- Electrical hazards.
- Fire hazards.
- Ventilation hazards.
- Lifting hazards.

Consider the following specific modules for this area:

- SH-11 Business and Office Safety
- SH-25 Safety Features of Material and Personnel Movement Devices
- SH-31 Overcurrent and Electrical Shock Protection
- SH-44 Exhaust, Dust Collection, and Ventilation Systems

Stenographic, Secretarial, and Related Occupations - These workers constitute a large number of employees in this occupational cluster. Three general job titles can be identified for these workers, including:

- Executive secretary.
- Secretary.
- Stenographer.

A majority of the working day for these people is spent confined to an office and subjected to hazards frequently found in that environment, including:

- Electrical hazards.
- Fire hazards.
- Ventilation hazards.
- Lifting hazards.

Consider the following specific modules for this area:

- SH-11 Business and Office Safety
- SH-25 Safety Features of Material and Personnel Movement Devices
- SH-31 Overcurrent and Electrical Shock Protection
- SH-44 Exhaust, Dust Collection, and Ventilation Systems

Supervisory and Administrative Management Occupations - Workers classified in this area usually perform their duties within a prescribed office or portion of an office building. Tasks performed by this group of workers include (1) studying policies, organizational structure, and administrative practices, (2) reviewing budgets, (3) preparing reports, and (4) supervising and coordinating activities and assigning work duties.

These workers are exposed to many of the same hazards experienced by others in this environment, including:

- Electrical hazards.
- Fire hazards.
- Ventilation hazards.
- Lifting hazards.

Consider the following specific modules for this area:

SH-11 Business and Office Safety
SH-25 Safety Features of Material and Personnel Movement Devices
SH-31 Overcurrent and Electrical Shock Protection
SH-44 Exhaust, Dust Collection, and Ventilation Systems

Typing and Related Occupations - Duties performed by this group of workers mainly involve typing, using keyboard-operated machines. These workers perform most of their duties within an office environment. At least two classifications of workers include:

- Clerk-typist.
- Typist.

Hazards for this group of workers include:

- Electrical hazards.
- Fire hazards.
- Lifting hazards.

Consider the following specific modules for this area:

SH-11 Business and Office Safety
SH-25 Safety Features of Material and Personnel Movement Devices
SH-31 Overcurrent and Electrical Shock Protection
SH-44 Exhaust, Dust Collection, and Ventilation Systems

Many other types of office workers have specific job titles that do not lend themselves to being classified in any of the previously described groups. The hazards to which they are subjected, however, are similar to other workers in the office environment.

SECTION II

SAFETY AND HEALTH MODULES FOR BUSINESS AND OFFICE EDUCATION

The great diversity of occupations in Business and Office Education makes it impractical to establish one safety and health program appropriate for all. To be useful then, any instructional materials for this group of occupations must be flexible enough to allow specific programs to be designed to meet individual student needs. Instruction utilizing modules has that flexibility.

The Job Safety and Health Instructional Materials (JSHIM) are packaged in a modular format. By definition, a module is considered to be a component of a larger entity. An instructional module is one that contains a discrete amount of information directly related to a specified set of instructional objectives. As an instructional module, it is also a component of a more complete instructional system. A complete example module can be found in Appendix B.

CORE MODULES

Because the JSHIM modules were designed with the intent of their being useful to many occupations in a variety of occupational clusters, two separate groups of modules were created. One group consists of ten modules classified as "core" modules. Safety and health experts consider these topics to be fundamental to almost every occupational cluster. The ten modules are numbered SH-01 through SH-10 and include the following:

SH-01 MATERIALS HANDLING

Manual and mechanical methods for lifting, loading, and transporting materials are discussed, including the use of various aids such as ropes, chains, slings, conveyors, overhead cranes, dock plates, and hand and industrial trucks.

SH-02 THE ROLE OF OSHA IN SAFETY AND HEALTH

The Williams-Steiger Act is discussed, including rights and responsibilities of employees and employers under the Act. OSHA inspections

are described; record-keeping requirements explained; and company training programs discussed.

SH-03 FUNDAMENTALS OF ELECTRICAL SAFETY

Basic electrical terminology and principles are discussed so that common electrical hazards can be understood. Safety features of equipment and OSHA requirements designed to protect workers from electrical hazards are explained.

SH-04 FIRST RESPONSE TO MEDICAL EMERGENCIES

Medical emergencies occur daily and may happen to anyone at anytime. This module is designed to inform students of actions that should be taken to aid the victim of such an emergency until professional medical personnel arrive. First aid procedures are outlined for seventeen common medical emergencies.

SH-05 FIRE PREVENTION AND EMERGENCY PROCEDURES

Fire and emergency procedures for fighting fires are discussed. Codes and regulations related to fire safety are explained. Fire detection and protection devices are also described.

SH-06 WALKING AND WORKING SURFACES

Many job-related accidents are caused by falls on or from such work areas as floors, stairways, exits, ladders, and scaffolds. Safety precautions and regulations governing these surfaces are described.

SH-07 SAFETY SIGNS, LABELS, TAGS, AND COLOR CODES

A uniform system of signs, labels, tags, and markings is used to warn against a wide range of hazards. Specifications, including size, color, and purpose, are given for signs that indicate danger, caution, exits, directions, biological hazards, traffic, and safety instructions.

SH-08 RECOGNIZING JOB HEALTH HAZARDS

Chemical, physical, and biological health hazards are discussed, including contamination, effects, and protective mechanisms.

SH-09 RECOGNIZING JOB SAFETY HAZARDS

Employer and employee responsibilities in the recognition and correction of job safety hazards are delineated. Common safety hazards pertaining to fire, machine guards, electrical equipment, apparel, tripping, housekeeping, and lifting are described.

SH-10 STRUCTURAL EGRESS AND EMERGENCY PROCEDURES

Egress requirements are given and discussed, including specifications for exits, illumination of exits, and provisions for fire, smoke, fumes, and panic. The importance of emergency plan procedures and their implementation is stressed.

SPECIFIC MODULES

The remaining 40 modules contain information useful to at least one but less than all of the seven occupational clusters. Thirteen of the 40 specific modules have been selected as being useful for the Business and Office Education cluster. The following descriptions provide some insight into their content:

SH-11 BUSINESS AND OFFICE SAFETY

The number and types of business and office injuries are presented. Office safety hazards and their control are discussed. Fire and health protection are described.

SH-12 PERSONAL PROTECTIVE EQUIPMENT

The student is instructed in the selection, use, and care of personal protective clothing and equipment, including safety helmets, hearing protectors, face and eye protective equipment, respirators, safety belts, and protective clothing and footwear. OSHA requirements governing protective equipment are reviewed.

SH-14 USING ROPES, CHAINS AND SLINGS SAFELY

This module discusses in detail the use, care, inspection, and maintenance of fiber ropes, wire ropes, chains and slings. OSHA regulations and consensus standards relating to this equipment and its use are presented.

SH-16 MATERIAL HOIST SAFETY

Safety features for inside and outside material hoistways and for material hoist platforms are described. Hand-operated crane hoists, electric hoists, and air hoists and their safety features are discussed.

SH-23 WAREHOUSING, STORAGE AND RETRIEVAL SAFETY

Prevention of material storage and handling accidents and injuries is the main topic of this module, which presents proper techniques for manual handling, including the use of hand tools and storage of various types of materials. Regulations governing shipping and receiving areas also are discussed.

SH-25 SAFETY FEATURES OF MATERIAL AND PERSONNEL MOVEMENT DEVICES

Topics discussed include safety features and practices for such devices as conveyors, lift trucks, motorized hand trucks, aerial bucket devices, elevators, escalators, moving walks, and man lifts.

SH-29 HAZARDOUS MATERIALS SAFETY

General characteristics of combustible, flammable, explosive, poisonous, and corrosive hazardous materials are discussed, with special emphasis on compressed gases, flammable and combustible liquids, combustible solids, explosives, radiation, and corrosives.

SH-30 SAFE HANDLING AND USE OF FLAMMABLE AND COMBUSTIBLE MATERIALS

Properties and classifications of flammable and combustible materials are presented, with safety measures to be taken in the storage, transportation, and use of these materials. Special emphasis is placed on liquefied petroleum gas.

SH-31 OVERCURRENT AND ELECTRICAL SHOCK PROTECTION

Basic electrical terminology and specific methods for techniques to prevent electrical shocks are reviewed. Overcurrent circuit interrupters and their use are discussed in detail.

SH-33 VIBRATION AND NOISE CONTROL

A definition of noise, measurement techniques, parts of noise problems and best method of control procedures are outlined in this module.

Personal protective services and maximum exposure limits are described for various workplace conditions.

SH-35 IONIZING AND NONIONIZING RADIATION PROTECTION

Radiation comes in many forms and can have a wide range of effects on personnel exposed to it. Specific health concerns are detailed, as well as regulations established for protection against each type of hazard.

SH-36 SAFETY FEATURES FOR FLOOR AND WALL OPENINGS AND STAIRWAYS

Protection is discussed on floor openings, wall openings, open-sided floors, platforms, runways, and stairways. Fabrication specifications are explained.

SH-44 EXHAUST, DUST COLLECTION, AND VENTILATION SYSTEMS

Types of exhaust, dust collection, and ventilation systems are described, as well as their functions, use, and effectiveness.

While each module has been assigned a number in sequence, there is no implied priority of presentation. Each module is fundamentally self-contained, allowing most to be used without regard to any numerical sequence. There are no prerequisites for the modules.

SECTION III

MODULE DESIGN AND USE

Each of the 50 JSHIM modules contains the following components:

Introduction - A synopsis of what is presented and why.

Objectives - Measurable objectives that relate to the content of each module are presented, and the objective's page location in the subject matter is noted.

Subject Matter - For most modules, this consists of 20 to 25 pages of content, with all content related to one of the stated objectives.

Activities - Following each portion of subject matter related to an objective is a question for the student to answer as an indication of mastery of that objective.

References - Suggestions for supplementary information.

An example module complete with all components may be found in Appendix B.

The basic content of each part will vary with the different modules, but its purpose and function remain the same. It is recommended that each section be considered when using a given module.

Exact usage techniques may be as varied as the individual instructional approach. Some basic hints, however, may be helpful in identifying some of the various ways in which they can be used. Each module is basically self-contained and could be used in a self-study or self-paced format. However, the optimum method of use is for the modules to be presented by an instructor using the module as a student study guide. Prior to assigning the module, examine the objectives to determine that all content is appropriate for your students. If certain content or objectives are not relevant, advise your students that they will not be held responsible for those sections. In addition, you should provide appropriate activities that will allow your students to practice proper safety and health procedures. Some follow-up activities include:

- Round-table discussions with students or adult groups in the workplace.
- Requiring verbal or written reports related to a single objective or a recent accident from newspaper articles.

- Developing or adding to a job safety and health bulletin board.
- Performing an in-house health and safety hazard survey of the classroom or other facilities.
- Guest speakers from the community, including such people as: Accident victims or their relatives, or people responsible for safety, such as firemen, policemen, or safety engineers for government and private industry.
- Field trips to workplaces similar to those the student will encounter.
- Having local emergency rescue units demonstrate their procedures and discuss problems.
- Constructing simulations that allow students to model or role play circumstances in safety and health.
- Putting health and safety information articles and information in a local or school newspaper.
- Promoting student involvement in local and national safety organizations.

One of the most significant responsibilities of a vocational or occupational instructor is to foster a positive student attitude toward safety and health. The activities listed above should help to build this positive attitude. Your effectiveness in establishing this attitude can be measured by student comments and actions. If you observe safety being willingly practiced in day-to-day activity you can be reasonably assured that a proper attitude has been developed.

Emphasizing your commitment to safety and health by setting the proper example is critical. Properly practiced safety rules will not only reduce work accidents, they also will decrease the possibility of classroom accidents and subsequent instructor liability. Your actions and attitudes toward safety and health will be carefully observed and copied by many students. An example is a situation in which activities dictate that hard hats be worn by all present. If the instructor tells all the students to wear hard hats but chooses not to do the same, students are likely to feel that it is actually unimportant or perhaps childish to wear a hard hat. Similarly, if the attitude of the instructor is conveyed by "I know they are uncomfortable and look weird, but put them on anyway!" a less than positive attitude will prevail. Regardless of the method used to convey safety and health information or the conviction with which it is presented, if it is

not being practiced in the learning environment its credibility will be lost.

Use of accurate, pertinent, and easily understood educational materials is a second way to promote a proper safety attitude. The Job Safety and Health Instructional Materials modules can be used as a source for making transparencies of illustrations, tables, or charts that can be used as teaching aids. Other supplemental information or aids can be found in the Reference section of each module. Modules are organized in a format that permits maximum flexibility and makes them suitable for use by instructors in almost any occupational or vocational area.

Two fundamental methods of presentation can be practiced in safety and health instruction. One method is to organize a separate and distinct safety and health course for students in one vocational area. An advantage of this approach is uniformity of the content presented to each student. Specifically allocated time frames for safety and health instruction are available when using this technique.

A second approach is to insert the safety and health instruction into existing training programs on an as-needed basis. This would benefit instructional programs that have only limited time and/or facilities available for training activities. Additional advantages are realized by the ability to present the exact content desired when it is most relevant to the student's training cycle. For instance, the best time to present information about selecting proper personal protective equipment is immediately before the student needs the information. More specifically, if the student were about to perform a task that required wearing a respirator, the section concerned with respirators of Module SH-12, "Personal Protective Equipment," would be most appropriate.

Modules SH-01 through SH-10 are considered core modules, and they have been recommended for use by all Business and Office Education instructors. Much of the content presented in those first ten modules is basic enough that you might wish to present them as a unit at the beginning of the course. This does not mean that each objective of the ten core modules must be presented; you may select those that are appropriate for your instructional sequence.

As a mechanism for determining the level of previously acquired safety and health knowledge and skills, formative pretests can be conducted. Student activities found in the modules can be used, or separate instruments or procedures devised.

As each module contains distinct subparts relative to each objective, you have the option to present only that part (or those parts) of the module useful to your students in that specific instructional setting. If, at another point in their training cycle, additional information is needed from that module, the additional content can be studied without loss of continuity. Student retention and interest will be enhanced when the principles have an obvious and direct relationship to activities being performed.

If a group presentation format is used, visuals found in the modules can be made into overhead transparencies for ease of discussion. Other sources of safety and health information and mediated materials for Business and Office Education can be found in a special "State-of-the-Art Report" prepared for the JSHIM project.

SECTION IV

SPECIAL-NEEDS STUDENTS IN BUSINESS AND OFFICE EDUCATION

The Civil Rights Act of 1964 and the Rehabilitation Act of 1973 placed responsibility on the employer to set goals and timetables - and to prepare guidelines for affirmative action - that include employing the handicapped. As a result of these legislated acts and a growing need for more labor trained in vocational areas, increasing numbers of students with special needs are entering vocational training programs. To satisfy these requirements and ensure that special-needs students have an equal opportunity to be "mainstreamed" into the labor force, certain attitudes and actions must occur.

Many classification schemes are used to categorize handicapped workers and individuals. Those students and workers with physical handicaps usually can be divided into three groups. The three groups include those with:

- Hearing impairments.
- Visual impairments.
- Orthopedic impairments.

Some special consideration should be recognized if you have one of these students in your training program.

A deaf or hearing-impaired student will have difficulty reacting to verbal cues such as warnings or directions. For example, a fire that starts in a storeroom of an office, near the only exit door, could cause escape problems for the hearing impaired if an audible alarm is the only warning. Emergency alarm systems should be equipped with easily visible, flashing lights. As an added precaution in a workplace, it is advisable to assign someone to help the worker identify the existence of an emergency or pending danger.

The visually-impaired or blind student may have no difficulty in hearing warnings, but may have difficulty in leaving an area if unknown obstacles are present. These workers normally adapt quickly to their surroundings and, provided that no furniture, machinery, or materials are blocking the path, they can move to safety in an emergency. Warning labels on haz-

ardous materials containers should have braille interpretations or should be identified for the student. Storage of hazardous materials in an appropriate cabinet may also prevent accidental use of an unknown chemical.

Orthopedically-impaired workers may require structural or mechanical modifications to the workplace, depending on the type of handicap. Those confined to wheelchairs may need ramps for moving from one level to another. Aisles should be clear, and wide enough to permit easy movement. If wall-mounted tools or switches are to be used, either they should be within easy reach, or adaptations should be made for their use. Other types of modifications may be necessary for other orthopedically-impaired workers.

Most students and workers with permanent handicaps have learned to compensate for their "apparent" handicaps. Many can accomplish amazing feats in spite of what we perceive as insurmountable odds. Development of a positive attitude concerning the ability of these students to function in the workforce is extremely important.

An attitude must be developed that includes caring, understanding, and the belief that handicapped workers are capable of achieving exactly what you believe they are capable of achieving. Some special consideration may be required, perhaps including increased time and practice, to master certain activities. In some vocational programs Individualized Educational Plans (IEPs) documenting specific training programs for individual students have been used to identify the exact need.*

Each state provides special resource people to assist vocational educators with designing programs and suggesting techniques for training the handicapped student. Other state and local agencies such as those involved in rehabilitation may provide local support. Some individual schools provide professionals and paraprofessionals who move around to assist handi-

*Conaway, Charlotte. "Vocational Education Serves the Handicapped." Voc Ed, Vol. 56, No. 3, April 1981, pages 22-25.

capped students in vocational classes containing nonhandicapped students. These persons can act as tutors, translators, facilitators, or whatever is needed to help the handicapped student successfully complete the training program.

Two other considerations should be recognized by instructors and employers. Structural accommodation and nonhandicapped employee awareness programs are both key factors for a safe and successful employment program of the handicapped.

Structural accommodations should include only those modifications necessary to allow safe movement of the handicapped employee. One of the most obvious examples is the need for ramps for use by wheelchair-bound employees.

Employers should also be encouraged to develop awareness programs for their nonhandicapped employees. These programs should encourage fellow employees to understand that the handicapped worker is expected to perform the assigned duties without placing an additional burden on other employees.

All nine of the previously identified program areas in Business and Office Education contain activities that could be performed by handicapped employees. Some of these workers might have special needs unrelated to physical handicaps, including the need for assistance in understanding the English language. Inability to read basic warning labels and signs poses added dangers for these workers. Instructors and employers should develop programs to eliminate this problem. The use of international symbolism in signs is a fundamental help in that attempt.

If these suggestions are considered, handicapped or special-needs workers can successfully complete a safe and meaningful vocational program. And they can become productive and safe members of the labor force.

SECTION V

SAFETY AND HEALTH CERTIFICATION FOR STUDENTS

Traditionally, when a person satisfactorily completes a course of instruction, some recognition is granted. Often the recognition is in the form of a certificate issued by the institution or organization responsible for the instruction. This certificate becomes an official symbol displayed with pride by the recipient. A Safety and Health Certificate is particularly important to the new employee and the employer if it implies that the employee has demonstrated an understanding of the basic safety and health aspects relevant to the particular job.

Most employers are aware that documented safety and health training received by their employees is beneficial to them in the event of an OSHA inspection, and they will appreciate the fact that the employee holds a certificate and your institution maintains records to verify that training. Employers also will feel more confident about the safety of their workplaces when they hire people who already possess positive safety and health attitudes.

Three factors normally determine the credibility of the certificate:

- Reputation of the issuing institution.
- Instructor.
- Content of materials used during the course of study.

For safety and health instruction, a fourth factor must be considered; namely, the relationship of the content to federal safety and health regulations. All 50 JSHIM modules were designed to enable the student to recognize safety and health hazards and to understand the fundamental aspects of compliance with federal health and safety requirements. While the Occupational Safety and Health Administration (OSHA) does not certify training programs, OSHA representatives have been active on the nationally-based advisory committee formed to guide this project, and they have reviewed each of the 50 modules and have made constructive suggestions that have been incorporated.

The Center for Occupational Research and Development has attempted to structure the content of the materials to be accurate and relevant to current safety practices and regulations. The institution and the instructor who provide the training must be responsible for certifying that the information was accurately presented and that the student achieved the desired level of competency (80% mastery of objectives).

When an institution purchases modules from CORD, the same number of certificates as sets of modules will be sent to the institution. These certificates will require the signatures of two people; the faculty member who presents the instruction and the administrator of the institution. The certificate will state that the student has satisfactorily completed a particular number of hours of instruction in safety and health and will be presented to each student who successfully completes the training. A facsimile of the certificate is shown in Figure 1.

(Student's Name)	
has successfully completed _____ hours of instruction in	
JOB SAFETY AND HEALTH	
conducted at	
(Institution)	
Curriculum materials prepared by	
The Center for Occupational Research and Development	
	
Date	Instructor
	Administrator

Figure 1. Facsimile of safety and health training certificate.

Your institution may wish to be able to present official wallet-sized OSHA certificates to students who complete your training course. This is possible if the instructor has received training from the Occupational Safety and Health Training Institute located at 1555 Times Drive, Des Plaines, IL 60018. The OSHA Training Institute serves mainly to train compliance officers, but the following three courses are available to the general public free of charge.

- A Guide to Voluntary Compliance (for instructors).
- Basic Instructor Course in Occupational Safety and Health Standards for the Construction Industry.
- Intermediate Guide to Voluntary Compliance in the Health Area.

These courses are offered several times annually. The certificate available for your students is shown in Figure 2.

OSHA



U.S. Department of Labor
Occupational Safety and Health Administration

This is to certify that

has successfully completed an Occupational Safety and Health Training
Course in

A Guide to Voluntary Compliance

(Instructor) _____ 19 _____

Figure 2. Official certificate from OSHA Training Institute.

APPENDIX A

**JOB SAFETY AND HEALTH INSTRUCTIONAL MATERIALS
MODULE TITLES**

JOB SAFETY AND HEALTH INSTRUCTIONAL MATERIALS
MODULE TITLES

- SH-01 Materials Handling
- SH-02 The Role of OSHA in Safety and Health
- SH-03 Fundamentals of Electrical Safety
- SH-04 First Response to Medical Emergencies
- SH-05 Fire Prevention and Emergency Procedures
- SH-06 Walking and Working Surfaces
- SH-07 Safety Signs, Tags, and Color Codes
- SH-08 Recognizing Job Health Hazards
- SH-09 Recognizing Job Safety Hazards
- SH-10 Structural Egress and Emergency Procedures
- SH-11 Business and Office Safety
- SH-12 Personal Protective Equipment
- SH-13 Industrial Sanitation and Personal Facilities
- SH-14 Using Ropes, Chains and Slings Safely
- SH-15 Agribusiness Safety
- SH-16 Material Hoist Safety
- SH-17 Mechanized Off-Road Equipment Safety
- SH-18 Safe Operation of Commercial Vehicles
- SH-19 Safety with Hand and Portable Power Tools
- SH-20 Precautions for Explosive Materials
- SH-21 Marine and Longshoring Safety
- SH-22 Ladder and Scaffolding Safety
- SH-23 Warehousing Storage and Retrieval Safety
- SH-24 Machine and Woodworking Tool Safety
- SH-25 Safety Features of Material and Personnel Movement Devices
- SH-26 Safety for Compressed Gas and Air Equipment
- SH-27 Safety in Elevator and Grain Handling Facilities
- SH-28 Welding, Cutting and Brazing Safety
- SH-29 Hazardous Materials Safety
- SH-30 Safe Handling and Use of Flammable and Combustible Materials

- SH-31 Overcurrent and Electrical Shock Protection
- SH-32 Working Safely in Confined Spaces
- SH-33 Vibration and Noise Control
- SH-34 Safety Guards for Machinery
- SH-35 Ionizing and Nonionizing Radiation Protection
- SH-36 Safety Features for Floor and Wall Openings and Stairways
- SH-37 Safety Features of Concrete, Forms, and Shoring
- SH-38 Excavating, Trenching, and Shoring Safety
- SH-39 Steel Erection Safety
- SH-40 Electrical Power Transmission and Distribution Safety
- SH-41 Safety Practices for Demolition Procedures
- SH-42 Safe Use of Powered Industrial Trucks
- SH-43 Safety Practices for Commercial Diving
- SH-44 Exhaust, Dust Collection, and Ventilation Systems
- SH-45 Coast Guard Regulations Applied to Offshore Drilling
- SH-46 Chemical Hazards and Waste Disposal Safety and Health
- SH-47 Safety and Health in Vocational Education
- SH-48 OSHA Training Programs
- SH-49 Establishing a Company Safety and Health Programs
- SH-50 Agricultural Chemical and Pesticide Hazards

APPENDIX B

MODULE SH-11

"BUSINESS AND OFFICE SAFETY"

(see CE 031468)